Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Advanced Television Systems and Their Impact on the Existing Television Broadcast Service	)	MM Docket No. 87-268 RM-5811
	)	
Review of Technical and Operational Requirements: Part 73-E. Television Broadcast Stations	)	
	)	
Reevaluation of the UHF Television Channel and Distance Separation Requirements of Part 73 of the Commission's Rules	)	

To: The Commission

COMMENTS OF HUGHES COMMUNICATIONS GALAXY, INC.

Hughes Communications Galaxy, Inc. ("HCG") hereby files these Comments on the Notice of Inquiry issued by the Commission in the above-captioned proceeding.1/

I. Introduction

As a direct broadcast satellite permittee and operator of a satellite program distribution system serving cable television, HCG is intensely interested in the Commission's inquiry concerning the manner and impact of the introduction of advanced television ("ATV") systems. This is a very complicated proceeding intended to create a public record on the advantages, disadvantages and public interest

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1/ Advanced Television Systems, Notice of Inquiry, FCC 87-246, released August 20, 1987.

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concerns attendant to the various options for ATV. Because HCG can make complete comments only after a record has been created, these comments will serve as a preliminary statement of interest and concern. HCG intends to file additional comments in subsequent pleading rounds.

II. Responses to Specific Questions

Question No. 1: ATV Evaluation Criteria and Tradeoffs

An inquiry into the appropriate criteria to be employed in evaluating different ATV technologies must explicitly consider the effect on satellite video distribution systems, including C band satellite distribution to cable systems and DBS. Satellite video distribution systems offer substantial public benefits that should not be diminished or lost in any effort to address ATV broadcasting.

DBS, though still in the early stages of development, offers the possibility of truly universal high-quality video distribution. The contribution that DBS can make to the advancement of video services is perhaps as significant as that expected from terrestrial ATV itself. Moreover, DBS, as presently engineered, has the capability of providing economical and universal distribution of ATV. Clearly, DBS is an important resource for the future. The

investments already made by the DBS permittees[2/] as well as by the Commission in developing workable operational plans for DBS must not, and need not, be compromised in the search for an ATV plan which permits participation by local television broadcasters.

In particular, an ATV plan suitable for terrestrial broadcasters must not impose such technical or economic burdens on DBS as to make the implementation of a successful DBS system infeasible. Any proposed plan for ATV would involve parameter tradeoffs between such items as channel bandwidth, number of channels, antenna size and satellite power. Proposals requiring increase power, for example, may involve extensive satellite redesign. This certainly would involve substantial expense and delays for technical development. By the same token, an ATV plan with a large bandwidth requirement may seriously compromise the commercial attractiveness of DBS systems. In assessing appropriate parameter tradeoffs, the Commission must consider the impact on DBS, specifically the technical requirements for satellite design and redesign, expense and timing of implementation and effects on the commercial attractiveness of the service. Compliance with international channelization requirements for DBS established in the 1983 RARC and 1985 WARC must be

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2/ The DBS permittees are HCG, Satellite Television Corporation, United States Satellite Broadcasting Company, Inc., Dominion Video Satellite, Inc., and Advanced Communications Corporation. Direct Broadcast Satellite Corporation and Tempo Enterprises, Inc. are also conditional permittees.

considered as well.

Not only must adverse effects on DBS be avoided, but also DBS should not be prevented from offering state of the art ATV. DBS is so far unencumbered by any specific distribution format, therefore DBS has the potential to adapt to the technical standards necessary to provide the highest quality ATV service. ATV standards adopted to serve the needs of local broadcasters must not preclude, either through technical barriers or economic burdens, the provision by DBS operators of the highest possible quality of ATV service. The enhancements of video service that are made possible by DBS are a benefit which the public certainly should not be denied.

It is also important for the Commission explicitly to take into consideration the impact of ATV plans on C band satellite video distribution. Presently, C band satellites are the mainstay for the distribution of video services to cable headends and broadcast outlets. Substantial investments already have been made in space segment and ground station C band technology and de facto standards for channelization and power have been institutionalized. C band satellites will continue to provide a crucial link in video distribution throughout the next decade and beyond. Therefore, any ATV plan that is adopted should minimize any technical or economic dislocation of C band satellites and should ensure nondiscriminatory opportunities for C band technology to participate in the provision of ATV services.

Finally, the criteria for selection of an ATV technology must include the impact on the expense of customer equipment. Even if a particular ATV technology did not substantially impact satellite design or DBS channelization plans, a substantial increase in expense of ground station equipment could severely limit the ability of DBS operators to gain a toehold in the market. Proponents of ATV systems should be required to provide very specific information on the cost of any converters that would be required to be included in receiver hardware. Ultimately, ATV should not add substantial costs to home satellite receiver apparatus that is presently available. In addition, the Commission should ensure that the new generation of television receivers include fully nondiscriminatory reception capabilities for all available broadcast, cable and DBS services.

Question No. 10: Nonbroadcast Spectrum Allocation

HCG emphatically opposes any restrictions on the availability of frequencies at 12.2 to 12.7 GHz for DBS services. HCG has already made its views on this point known in its June 10, 1987 Opposition to the "Petition for Special Relief" filed on February 13, 1987 by the Association of Maximum Service Telecasters, Inc., and others, in General Docket No. 85-172, Further Sharing of the UHF Television Band by Private Land Mobile Radio Services. HCG will not reiterate its arguments here, but rather fully incorporates its earlier opposition as part of these comments. The Commission also already has declined to restrict DBS use of

the 12.2 to 12.7 GHz and has reiterated its support for the development of DBS.[3/] HCG urges the Commission to steadfastly adhere to this approach.

Question No. 14: Technical Problems with Implementation of Terrestrial ATV Service at 12 GHz

HCG has previously commented extensively on the propagation characteristics of the 12 GHz band and the serious technical limitations of the use of the 12 GHz band for supplemental ATV terrestrial service. See June 10, 1987 Comments of HCG on the "Petition for Notice of Inquiry" filed on February 13, 1987 by Association of Maximum Service Telecasters, Inc., and others. HCG hereby fully incorporates its earlier Comments on this subject as a part of these Comments. We also reiterate here that the use of 12 GHz would involve such complications with large numbers of transmitters, smaller service areas, increased bandwidth requirements, higher power requirements and restricted receiver design and location as to be virtually unworkable for terrestrial supplemental ATV service.

3/ Order in General Docket 85-172, FCC 87-327, released October 21, 1987.

III. Conclusion

HCG withholds judgment on specific ATV proposals pending development of a more complete record in this proceeding. However, the Commission must give full consideration to the special needs of DBS and other satellite video distribution operations. Therefore, mindful of the Commission's interest in preserving local television broadcasting, HCG urges the Commission to consider only such measures that do not compromise the ability of alternative technologies, such as DBS, to make the benefits of both standard television and ATV truly universally available.

Respectfully submitted,

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